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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,152	07/25/2006	Walter Stieglbauer	STIEGLBAUER ET AL 6 PCT	4971
25889	7590	07/13/2011	EXAMINER	
COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			DANG, KET D	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/587,152

Applicant(s)

STIEGLBAUER ET AL.

Examiner

KET D. DANG

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42, 44-62, 64-89, 91, 93 and 94 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 42, 44-62, 64-89, 91, 93 and 94 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/14/2011 has been entered.

This office action is responsive to the continued examination filed on February 14, 2011. As directed by the amendment: claims 61, 76, 81, 93, and 94 have been amended, claims 1-41, 43, 63, 90, and 92 have been cancelled and no new claims have been added. Thus, claims 42, 44-62, 64-89, 91, and 93-94 are presently pending in this application.

Response to Amendment/arguments

2. Applicant's *Amendment* /arguments with respect to claims 61, 76, 81, 93, and 94 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 42, 44-62, 64-89, 91, and 93 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 61 recites the limitation "a welding wire" at line 12 in the claim renders the claim indefinite. It is unclear for whether this welding wire is the same as the one recited in the preamble. If it is so, then "a" should be replaced with "the" or "said". If it is not, then essential structural cooperative relationships between the two are suggested.

Claim 81 recites the limitation "a guide path" at line 24 in the claim renders the claim indefinite. It is unclear for whether this guide path is the same as the one recited at line 5. If it is so, then "a" should be replaced with "the" or "said". If it is not, then essential structural cooperative relationships between the two are suggested. Furthermore, the limitation "at least one transport element" at line 12 and lines 15-16 in the claim renders the claim indefinite. It is unclear for whether this at least one transport element is the same as the one recited at line 9. If it is so, then "the" or "said" should be used. If it is not, then essential structural cooperative relationships between the two are suggested.

Claim 93 recites the limitation "a welding wire" at line 12 in the claim renders the claim indefinite. It is unclear for whether this welding wire is the same as the one recited in the preamble. If it is so, then "a" should be replaced with "the" or "said". If it is not, then essential structural cooperative relationships between the two are suggested. The limitation "a drive sleeve" at line 33 in the claim renders the claim indefinite. It is unclear for whether this drive sleeve is the same as the one recited at line 7. If it is so, then "a"

should be replaced with "the" or "said". If it is not, then essential structural cooperative relationships between the two are suggested. The limitation "at least one guiding element of the plurality of guiding elements" at lines 29-30 in the claim renders the claim indefinite. It is unclear for whether this at least one guiding element of the plurality of guiding elements is the same as the one recited at lines 12-13. If it is so, then "the" or "said" should be used. If it is not, then essential structural cooperative relationships between the two are suggested. Furthermore, the limitation "at least one transport element of the plurality of transport elements" at lines 35-36 in the claim renders the claim indefinite. It is unclear for whether this at least one transport element of the plurality of transport elements is the same as the one recited at lines 15-16. If it is so, then "the" or "said" should be used. If it is not, then essential structural cooperative relationships between the two are suggested.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 42, 44-62, 64-89, 91, and 93-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger (GB 2016984 A) in view of Schach et al. (WO 2004028702 A1, used US Pub. No. US 20060124762 A), Sugiyama (GB 2174942 A), and Cornell Jr. (US 3338492).

7. Regarding claims 61, 83, 86, 89, 91, 93, and 94, Berger discloses a method for feeding a welding wire 3 (Fig. 10 from a wire storage to a point of consumption, wherein a plurality of guiding elements 5 (Fig. 1) for guiding the welding wire 3 (fig. 1) are arranged in a base body (see figure 3 below), wherein the guiding elements 5 (Fig. 1) and the base body are arranged in a drive sleeve 7 (Fig. 1) to form a drive mechanism connected with at least one transport element 2 (Fig. 1) of each guiding element 5 (Fig. 1), the method comprising the following steps: guiding a welding wire through at least one guide element 2 (Fig. 1), contacting said welding wire at least one transport element 2 (Fig.1) on a side of the respective guiding element facing the welding wire 3 (Fig. 1), wherein said at least one transport element is shaped as a ball (page 3, lines 49-56); displacing at least one further transport element via a drive mechanism 7 (Fig. 1) on at least one further side of the guiding element 5 (Fig. 1, the bottom side), thus causing the transport elements 2 (Fig. 1) arranged in the guide path to be moved on by said at least one further transport element displaced by the drive mechanism 7 (Fig. 1), and displacing at least one guiding element for adaptation to the diameter of the welding wire (Abstract recites "the diameter of a wire nozzle bore is automatically adjusted along with roller adjustment").

With respect to claims 45-49, Berger discloses a wire feed device, wherein the base body centrically (Page 1, lines 16-20) arranged in the drive sleeve 7 (Fig. 1); wherein the drive sleeve is formed with an internal thread adapted to the contour of the transport element 2 (Fig.1) and engaged by at least one transport element; wherein each of the internal thread of the drive sleeve, the base body (see figure below) and the

guiding element conically designed 10 (Fig. 1) (Page 4, lines 28-39); wherein the base body comprises a preferably cylindrical projection (Page 2, lines 10-14), wherein the cylindrical projection is mounted in the interior of the drive sleeve; wherein the base body, on its side located opposite the projection, comprises a rectangularly designed positioning flange 1 (Fig. 2).

With respect to claims 52-54, Berger discloses wherein the coupling element is directly connected with a drive, in particular electromotor (Page 4, lines 40-42); wherein the drive is arranged axially to the wire feed device (Page 3, lines 94-100); wherein the drive comprises a hollow shaft 11 (Fig. 11) (Page 4, lines 94-99), wherein the hollow shaft is connected with the coupling element wherein the welding wire 3 (fig. 1) is passable through the hollow shaft 11 (Fig. 11) to the wire feed device (abstract).

With respect to claims 56-58, Berger discloses wherein a pressure element is arranged in the base body so as to be positioned between the positioning flange (Page 2, lines 100-107) and the guiding element 5 (Fig. 1) and to exert a pressure force onto the guiding elements (Page 1, lines 79-89); wherein each guiding element 5 (Fig. 1) comprises a guide groove 8 (Fig. 1), and at least one guide pin is arranged on the base body to engage said guide groove of the guiding element (Page 1, lines 79-84); wherein each transport element is designed in the form of a ball (Page 3, lines 49- 56).

With respect to claim 60, Berger discloses wherein the wire feed device is arranged in at least one of a welding apparatus (Page 1, lines 14-15).

With respect to claims 62, Berger discloses a method for feeding a welding wire 3 (fig. 1), wherein each guiding element 5 (Fig. 1) is displaced in the base body in at least one of a longitudinal and a vertical direction (Page 3, lines 103-109).

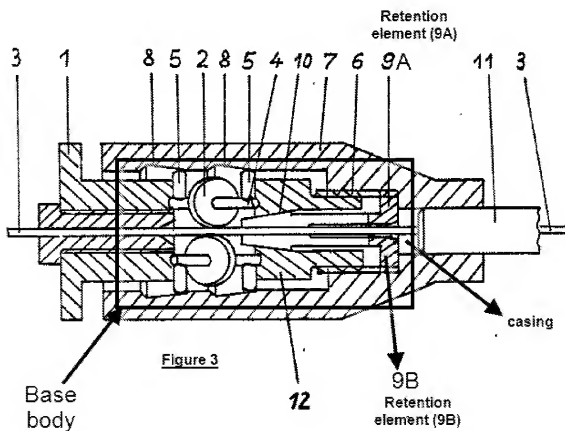
With respect to claims 65-69, Berger discloses wherein the base body is centrically (Page 1, lines 16-20) arranged in the drive sleeve 7 (Fig. 1); wherein at least one transport element engages a thread of the drive sleeve, with a contour of the thread being adapted to a contour of the transport element (Page 1, lines 79-84); wherein each of the thread of the drive sleeve, the base body and the guiding elements is conically designed 10 (Fig. 1) (Page 4, lines 28-39); wherein the base body (see figure 3 below) comprises a cylindrical projection (Page 2, lines 10-14), the base body being mounted in the interior of the drive sleeve 7 (Fig. 1) via the cylindrical projection (Page 2, lines 10-14); wherein the base body, on its side located opposite the projection, comprises a rectangularly designed positioning flange 1 (Fig. 2).

With respect to claims 72-74, 84, and 87, Berger discloses wherein the drive sleeve is directly connected with the drive is electromotor (Page 4, lines 40-42); wherein the drive is arranged axially to the wire feed device (Page 3, lines 94-100); wherein the drive is connected with the coupling element via a hollow shaft 11 (Fig. 11) arranged in the drive (Page 4, lines 94-99), welding wire being fed through hollow shaft (Page 4, lines 40-42).

With respect to claims 76-78, Berger discloses wherein a pressure force is exerted on the guiding element by a pressure element arranged in the base body between the positioning flange (Page 2, lines 100-107) and the guiding element (Page

1, lines 79-89); wherein at least one guide pin arranged on the base body engages a guide groove 8 (Fig. 1) of the guiding element (Page 2, lines 65-71) and the guiding element is displaced via assembly (Page 1, lines 9-11); wherein the transport element is designed in the form of a ball (Page 3, lines 49-56).

With respect to claim 80, Berger discloses wherein the wire feed device (Abstract) is arranged in a welding torch and a welding apparatus (Page 1, lines 14-15).



With respect to claims 81 and 94, Berger discloses a wire feed device for transporting a welding wire from a wire storage to a point of consumption comprising

(abstract): a plurality of guiding elements 5 (Fig. 1) for guiding the welding wire 3 (Fig.1), a base body (see figure 3 above); and a drive sleeve 7 (Fig. 1) connected with at least one transport element of each guiding element; wherein at least one further transport element 2 (Fig. 1) is connected with the welding wire 3 (Fig.1) in at least one of a force-locking manner and a form-locking manner (Page 1, lines 84-86) (Page 2, lines 100-107); wherein the base body (see figure 3 below) and the guiding elements 5 (Fig. 1) are arranged in the drive sleeve 7 (Fig. 1); and wherein at least one guiding element 5 (Fig. 1) is displaceably arranged to adapt to a diameter of the welding wire (Abstract recites "the diameter of a wire nozzle bore is automatically adjusted along with roller adjustment").

With respect to claims 42, 50-51, 55, 59, 70-71, 75, 79, 85, and 88, Berger discloses wherein at least one guiding element is displaceably arranged in a base body (See annotated "Base body" in figure 3 above); the positioning flange is connected with a retention element in a torque proof manner 9A (See annotated Figure 3 above); wherein the drive sleeve is connected with a coupling element, coupling element being arranged on the opposite side of the retention element 9B (See annotated Figure 3 above); wherein the drive is rotationally connected with a further retention element (See annotated Figure 3 above for retention elements); wherein the drive sleeve has an outer diameter of between 20 mm and 30 mm (Abstract, variable diameter).

Berger also discloses all of the limitations of the claimed invention as set forth above, except for each guiding element including a guide path along which a plurality of transport elements are successively and displaceably mounted; and wherein said guide

path of said guide element is contoured to a shape of at least one of said plurality of transport elements, wherein said plurality of transport elements are configured as rollers; and an internal thread adapted to the contour of said transport elements and engaged by at least one transport element; and wherein said transport elements move in a circulating manner within the guide path.

However, each guiding element including a guide path along which a plurality of transport elements are successively and displaceably mounted; and wherein said guide path of said guide element is contoured to a shape of at least one of said plurality of transport elements, and wherein said plurality of transport elements are configured as rollers are known in the art. Schach et al., for example, teaches each guiding element including a guide path along which a plurality of transport elements are successively and displaceably mounted (para. 0008, 0016-0018, and 0023); and wherein said guide path of said guide element is contoured to a shape of at least one of said plurality of transport elements, wherein said plurality of transport elements are configured as rollers 8 (fig. 2) (para. 0013-0014, and 0017). Schach further teaches such a configuration provides the use of the rollers which are held in ball bearings considerably reduces the maintenance intervals and further advantage of the use of the deflection rollers is also that the feed-proof force can be reduced and the wear can be kept very low (para. 0017). Therefore, it would have been obvious to one of ordinary skill in the art to modify Berger with each guiding element including a guide path along which a plurality of transport elements are successively and displaceably mounted of Schach in order to reduce the maintenance intervals and further advantage of the use of the deflection

rollers is also that the feed-proof force can be reduced and the wear can be kept very low.

Similarly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to Berger's teachings, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179. In addition, Berger was not adequately labeling those features on the figures and also his invention is capable of adapting them as well.

In addition, an internal thread adapted to the contour of said transport elements and engaged by at least one transport element is known in the art. Sugiyama, for example, teaches an internal thread 22 (fig. 2) or 8 (fig. 4) adapted to the contour of said transport elements and engaged by at least one transport element 4 (fig. 4) (page 1, lines 33-37 and lines 66-67). Sugiyama further teaches such a configuration provides a means to insure the positive and steady feed of welding wire (page 1, lines 36-37). It would have been obvious to one of ordinary skill in the art to modify Berger with an internal thread adapted to the contour of said transport elements and engaged by at least one transport element of Sugiyama in order to insure the positive and steady feed of welding wire.

With respect to claims 44, 64, and 82, Sugiyama teaches wherein three guiding elements 19a/19b/19c (Fig. 2) (Page 1, lines 61-66) are arranged about the welding wire; wherein three guiding elements offset by 120°, are arranged in the base body; and

wherein three guiding elements are offset by an angle of 120° (See figure 2 for three guiding elements arrangement is illustrated a 120° apart).

Furthermore, wherein said transport elements move in a circulating manner within the guide path is known in the art. Cornell Jr., for example, teaches wherein said transport elements 66 (fig. 4) or 71 (fig. 5) move in a circulating manner within the guide path (col. 3, lines 54 – col. 4, lines 25). Cornell Jr. further teaches such a configuration provides a dual wire feeder having a reversible electric motor as a source of motive power, and including means operative in the forward and reverse rotation of the motor to feed wire selectively from first or second sources of supply of wire (col. 1, lines 55-59). It would have been obvious to one of ordinary skill in the art to modify Berger in view of Schach et al., and Sugiyama with wherein said transport elements move in a circulating manner within the guide path of Cornell Jr. in order to provide a dual wire feeder having a reversible electric motor as a source of motive power, and including means operative in the forward and reverse rotation of the motor to feed wire selectively from first or second sources of supply of wire.

Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ejita et al. (US 4136273) discloses method and apparatus for TIG welding.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KET D. DANG whose telephone number is (571)270-7827. The examiner can normally be reached on Monday - Friday, 7:30 - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Tu can be reached on (571) 272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KET D. DANG/
Examiner, Art Unit 3742
July 6, 2011

/Henry Yuen/
Supervisory Patent Examiner,
TC 3700